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CLAIMS

What is claimed is:

1. A touch-control method of an LCD, which is to sense a touch point on an LCD screen of the LCD, the LCD comprising a counter electrode panel and a substrate having a plurality of data lines and a plurality of scan lines, the method comprising:

a first touch-position sensing step, which detects values of liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel, respectively, and detects a scan-line-direction touch position according to the values of the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel during idling time in-between writing periods, each of the scan lines turning on sequentially to write image data into the LCD screen in the writing periods;

a charging step, which charges a voltage signal into each of the data lines needed to be detected after the scan-line-direction touch position is detected; and

a second touch-position sensing step, which detects values of liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel, respectively, and detects a data-line-direction touch position according to the values of the liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel after the voltage signal is

charged,

wherein, the scan-line-direction touch position and the data-line-direction touch position indicate a position of the touch point.

2. The method of claim 1, wherein when the scan-line-direction touch position is not detected in the first touch-position sensing step, the first touch-position sensing step is repeated.
3. The method of claim 1, wherein when the data-line-direction touch position is not detected in the second touch-position sensing step, the first touch-position sensing step is repeated.
4. The method of claim 1, wherein the substrate is a TFT substrate.
5. The method of claim 1, wherein when detecting the liquid crystal capacitances formed between the scan lines and the counter electrode panel, at least one of the scan lines is skipped in the first touch-position sensing step.
6. The method of claim 1, wherein when detecting the liquid crystal capacitances formed between the data lines and the counter electrode panel, at least one of the data lines is skipped in the second touch-position sensing step.
7. The method of claim 1, further comprising:
 - a comparing-value setting step, which sets at least one scan-line comparing value and at least one data-line comparing value.
8. The method of claim 7, wherein when a liquid crystal capacitance (C_k) formed between one of the scan lines and the counter electrode panel is

greater than the scan-line comparing value, the first touch-position sensing step determines the location of the scan line corresponding to the liquid crystal capacitance (C_k) is the scan-line-direction touch position.

9. The method of claim 7, wherein when a liquid crystal capacitance (C_l) formed between one of the data lines and the counter electrode panel is greater than the data-line comparing value, the second touch-position sensing step determines the location of the data line corresponding to the liquid crystal capacitance (C_l) is the data-line-direction touch position.
10. The method of claim 7, wherein the scan-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel.
11. The method of claim 7, wherein the data-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel.
12. The method of claim 7, wherein the scan-line comparing value is equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the counter electrode panel and the scan lines.
13. The method of claim 7, wherein the data-line comparing value is equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the counter electrode panel and the data

lines.

14. The method of claim 7, wherein the scan-line comparing value is equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel.
15. The method of claim 7, wherein the data-line comparing value is equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel.
16. An LCD (liquid crystal display), which has a counter electrode panel and a substrate having a plurality of data lines and a plurality of scan lines, comprising:

a first sensing circuit, which respectively electrically connects to the scan lines needed to be detected, detects values of liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel, and detects a scan-line-direction touch position according to the values of the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel;

a timing control circuit, which electrically connects to the first sensing circuit and controls the first sensing circuit to detect the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel during idling time in-between

writing periods, each of the scan lines turning on sequentially to write image data into the LCD screen in the writing periods;

a voltage-signal generating circuit, which electrically connects to the timing control circuit and each of the data lines, wherein the timing control circuit controls the voltage-signal generating circuit to charge a voltage signal into each of the data lines needed to be detected after the scan-line-direction touch position is detected; and

a second sensing circuit, which respectively electrically connects to each of the data lines needed to be detected, detects values of liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel, and detects a data-line-direction touch position according to the values of the liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel after the voltage signal is charged.

17. The LCD of claim 16, wherein when the first sensing circuit detects the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel, at least one of the scan lines is skipped.
18. The LCD of claim 16, wherein when the second sensing circuit detects the liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel, at least one of the data lines is skipped.

19. The LCD of claim 16, wherein the substrate is a TFT substrate.
20. The LCD of claim 16, further comprising:
 - a comparing-value setting circuit, which respectively electrically connects to the first sensing circuit and the second sensing circuit, and sets at least one scan-line comparing value to be input to the first sensing circuit and at least one data-line comparing value to be input to the second sensing circuit.
21. The LCD of claim 20, wherein when a liquid crystal capacitance (C_k) formed between one of the scan lines and the counter electrode panel is greater than the scan-line comparing value, the first sensing circuit determines that the location of the scan line corresponding to the liquid crystal capacitance (C_k) is the scan-line-direction touch position.
22. The LCD of claim 20, wherein when a liquid crystal capacitance (C_l) formed between one of the data lines and the counter electrode panel is greater than the data-line comparing value, the second sensing circuit determines that the location of the data line corresponding to the liquid crystal capacitance (C_l) is the data-line-direction touch position.
23. The LCD of claim 20, wherein the scan-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel.
24. The LCD of claim 20, wherein the data-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances

formed between the data lines needed to be detected and the counter electrode panel.

25. The LCD of claim 20, wherein the scan-line comparing value is equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitance formed between the counter electrode panel and the scan lines.
26. The LCD of claim 20, wherein the data-line comparing value is equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitance formed between the counter electrode panel and the data lines.
27. The LCD of claim 20, wherein the scan-line comparing value is equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel.
28. The LCD of claim 20, wherein the data line comparing value is equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel.